

### **REMARKS**

Claims 1-8 are pending. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Claims 1-8 were rejected under 35 U.S.C. § 103(a) over Miyazaki et al. (U.S. Patent No. 6,414,772) in view of Kinoshita (U.S. Patent No. 6,023,366), Nelson et al. ("Resonances in Cross-Phase Modulation Impairment in Wavelength-Division-Multiplexed Lightwave Transmission, IEEE Photonics Technology Letters, Vol. 11, No. 7, July 1999) and Jopson (U.S. Patent No. 5,386,314). Applicants respectfully traverse this rejection.

Claim 1, recites, in part, an apparatus that includes a second transmission means for generating and transmitting a supervisory signal and that the modulation frequency and the intensity of the supervisory signal are modulated in phase to the information signals by a cross phase modulation effect. As admitted in the Office Action (page 2), Miyazaki does not teach or suggest generating and transmitting a supervisory signal. The Office Action relies on Kinoshita as teaching a supervisory signal and alleges that it would have been obvious to combine Kinoshita with Miyazaki to obtain the features recited in claim 1 less the recited modulation frequency range of the supervisory signal. Applicants respectfully disagree.

Miyazaki discloses a method for transmitting a WDM signal using cross-phase modulation based on the signal channels to reduce SBS (See, for example, column 8, lines 25-55). Kinoshita discloses including supervisory information regarding the number of channels for controlling the target level of an optical repeater (See Abstract). Kinoshita is silent regarding cross-phase modulation and therefore is also silent regarding using the supervisory signal for cross-phase modulation. Therefore, the combination of Miyazaki and Kinoshita, fails to teach or suggest that the cross phase modulation effect is based on the supervisory channel.

Neither Nelson nor Jopson separately or in combination remedy at least this deficiency of the combination of Miyazaki and Kinoshita. Accordingly, no combination of Miyazaki, Kinoshita, Nelson, and Jopson disclose teach or suggest an apparatus that includes a second transmission means for generating and transmitting a supervisory signal, and that the modulation frequency and the intensity of the supervisory signal are modulated in phase to the information signals by a cross phase modulation effect, as recited in claim 1.

Claim 5 is believed allowable for at least the reasons presented above since claim 5 recites a method that includes generating and transmitting a supervisory signal and that the modulation frequency and the intensity of the supervisory signal are modulated in phase to the information signals by a cross phase modulation effect, and because, as discussed

above, no combination of Miyazaki, Kinoshita, Nelson, and Jopson discloses, teaches or suggests at least this subject matter.

Claims 2-4 and 6-8 are believed allowable for at least the reasons present above with respect to claims 1 and 5 by virtue of their dependence upon claims 1 and 5. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

**Conclusion**

Therefore, all objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned attorney for Applicants at the telephone number indicated below in order to expeditiously resolve any remaining issues.

Respectfully submitted,  
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Date: January 13, 2005